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SAPC 12676
COPY 1 OF 2

January 14, 1957

George:

I spent the week of January 7th at the Ranch investigating the reported difficulties on the MK II Drift Sight (electrical unit). Without touching anything I applied external power to the ship and operated the Hand Control. The line of sight responded correctly to the Hand Control. Rapid movement of the Hand Control does cause the line of sight to move in an arc rather than a straight line. This is inherent in an electrical system whenever the slewing speed is exceeded. A slower motion of the Hand Control drives the line of sight in a straight line. The Power Changer had not worked because it had never been connected. The Drift Knob was stuck as reported. The tracking rate was correct, and changed speed correctly as the knob was moved. The sextant did not mate because we had inadvertently installed an old style flange.

I removed the Hand Control from the cockpit and took its cover off. The Drift Knob was free when operated. Close examination of the cover and the Drift Knob gearing indicated no cause for the binding. Reassembly of the unit left the Drift Knob free. At the same time, the gearing and coupling to the Track Knob was examined and no fault found. The flange in the Drift Sight was replaced with a spare unit we were fortunate to have on hand. The Hand Control was replaced, Power Changer connected and the Drift Sight eyepiece reassembled. Someone had pushed loose the Drift Sight scale by too vigorous cleaning. The scale was recemented in place.

Next, I had the crew chief tie down the vehicle and run it up to 87% full power. I then checked the frequency of the ship's alternator and found it to be between 396 and 404 cps. I then operated the Hand Control and Drift Sight from the ship's power and found the response to be correct. The Power Changer worked properly with no binding. We then turned off the ship's engine and applied external power. [redacted] (one of the test pilots) sat down in the cockpit and STAT operated the Hand Control and Drift Sight while I instructed him in its use. He was quite pleased with the smoothness of operation. Oddly enough he told me that he had never used the power changer when I showed him how it worked. He seemed very pleased with this feature.

The flight scheduled for Thursday, January 10th was cancelled because of the weather. I learned from [redacted] that there was no A style hatch STAT for this vehicle (serial #364) at the Ranch. He promised to get a hatch up to the Ranch by Monday or Tuesday (January 14th or 15th). Arrangements were made with [redacted] of Detachment C to load an A1 Configuration, locked in vertical position STAT for tests on January 15th. [redacted] was instructed to wire up the Wheatstone STAT Bridge to the IMC potentiometer of the Hand Control in preparation for tests on Tuesday. These tests will be the same as conducted in late November on the mechanical Drift Sight.

[redacted] is at the Ranch the week of January 14th to keep aboard STAT any problems that may arise.

I feel that the difficulty with this unit has been magnified through delayed schedules. Our man, [redacted], was at the Ranch from December 10th thro STAT December 20th expecting the first flight on the electrical Drift Sight to be run the

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19th or 20th. As it was, the flight was not made until the 21st and, consequently, no one from our place could be available at this postponed date. I feel that there is no problem here, and that the unit is a decided improvement over the mechanical design.

The above confirms our telephone conversation of January 14, 1957.

TWM:hm
cc: EFM
RH
Projector Files

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